1. *Item 390, Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP Pilot, Item SPV.0165.4710: Regarding Section B.3.1 - General - 4th Paragraph - Are Type B and Type A allowed to be used interchangeably vertically up as needed (assuming proper separation with geotextile fabric)? Used interchangeably along the horizontal alignment? In Section B.3.2 – Backfill; the first paragraph states that "The entire wall must be constructed using the same backfill material…" which seems to contradict what is implied in section B.3.1. Clarification is needed.*

   The contradiction between Section B.3.2 and B.3.1 paragraph 4, has been resolved in addendum No. 2. Backfills Type A & B are both allowed within the same retaining wall. The same backfill material must be used for the entire wall height, from the leveling pad to top of finished reinforced earth zone, as required for each stage of a given wall construction. Stage in this context refers to constructing a full-height portion of wall along the wall alignment, not staging wall construction up the height of the wall. Therefore changing backfills interchangeably vertically is not allowed. (i.e. horizontal changes in backfill strata up the height of the wall will not be allowed.) Temporary shoring return walls, such as wire face MSE walls, to facilitate transitions between backfill types are acceptable as approved by the Engineer. If used these temporary return walls will be incidental to the MSE wall bid item.

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2. *Item 4 - Contractor Coordination, 2nd paragraph: Is there a water main on the 92nd street bridge? The existing utility plan and the City water main plan indicate it is underground. Are there two water mains?*

   There is no watermain on the 92nd Street Bridge over IH 94. There is an existing underground 16" watermain adjacent to the east side of the bridge.

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3. *Item 291 - Obstruction removals items: These items cover drilled foundation shafts, secant pile walls, soldier pile walls and drilled shafts for sign supports. Do one of these items cover noise wall foundations? Or are obstructions for noise wall foundations incidental?*

   Obstructions for noise wall foundations are incidental to the noise barrier bid item.

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4. *FTMS Plan Sheets: The FTMS removal plans indicate that numerous existing conduits, pullboxes, etc. cannot be removed until the FOC path is re-established on 84th Street, after the Honey Creek box culvert is removed. It is not clear which FOC path must be re-established. Can the designer please be more specific which FOC path must be re-established? Also, if known, what is the average depth of the existing FTMS lines? Did they have a minimum installation depth when they were originally constructed?*

   The FOC path that needs to be in place prior to the removals is on 84th Street from EXCV51F (page 521), into the City of Milwaukee conduits and south to EXCV38F (pages 510-511). This is the same FOC work referenced in the prosecution and progress in Stage 1B under 84th street.

The existing FTMS conduits are 3 feet deep on average. The required minimum installation depth was 3 feet.

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5. *95th St. P&P, pg. 1981: The plan and profile sheet shows an overhead utility between the freeway and 95th St. Is this a new facility? Only one segment is indicated as overhead; is the balance of it underground? Is the construction of this facility part of the 1060-33-80 contract?*

   There are two overhead lines on this P&P sheet. The one that crosses Bluemound Road around Station 200BL+30 depicted with a grey line will be gone prior to construction, if its not gone already. The other is shown with a bold black line and crosses 95th Street at about STA 51TRN+50. This is ATC's Western Milwaukee County Electric Reliability Project line. It is a 138kV overhead line that will be installed prior to construction. ATC anticipates having the poles and wires up by late September, but there is not a definite schedule as to when it will be energized.

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6. *On the soldier beam and lagging walls, plans call out for the soildier beams to be backfilled with CLSM above the footing and flowable backfill behind the lagging. I found the special provision for CLSM. My question is whether there is a difference in the CLSM and Flowable backfill material itself, or is it just a difference in terminology as to location for the same material. Please clarify.*

   CLSM and Flowable Backfill are different. CLSM has cementitious material in the mix resulting in essentially low strength concrete. The Flowable Backfill has no cementitious material and must be free draining to satisfy wall design intent and achieve satisfactory wall performance.

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7. *Pg. 1670 Misc. Quantities – Geotextile Fabric SAS lists 15,473 SY for R-40-511. I've looked thru plan sheets. 2884 – 2912 (R-40-511) and do not see any reference to Geotextile Fabric Type SAS anywhere, even the list of pay items/quantities. Please clarify where this fabric is utilized.*

   Please see the "Wall R-40-511 Overexcavation" construction detail on page 227.

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8. *Are smart cushions the only option for temporary crash cushions, or are other systems acceptable?*

   See Article 92 in the special provisions. The Model SCI 100GM Crash Attenuator from Smart Cushion Innovations (SCI) will be the only model allowed for permanent and temporary crash cushions.

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9. *I've attached a few plan sheets which I've marked up with some general questions regarding the framing/dimensioning of the precast beams for B-40-862. Basically, I would like to see if we can introduce some symmetry and consistent work point dimensions at these locations. The differences in the east and west beams are very small so this may be quite easy to accommodate. If a symmetrical layout can be developed the cost of the required formwork for fabricating the two special 54W girders could be significantly reduced.*

The responses to the marked-up questions provided are annotated in red on the same marked-up sheet and included on the HCCI system with these responses. Generally speaking the responses indicate that the plan layout is required and due to constraints symmetry was not achieved.

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10. *Will the department consider upsizing the soldier pile footing diameters for the W18 & W24 soldier piles? The 2'-6" diameter shafts do not allow for much tolerance given the beam sizes and create concrete placement issues, such as flowing around and encapsulating the beams (quality control).*

    The contract documents will not be modified to upsize the soldier pile footing diameters. The soldier pile hole sizes were sized for the largest wide flange sections, allowing approximately 4" minimum clear. The Foundation Drilling special provision allows 2" tolerance for a larger hole diameter. The contractor can request approval from the Engineer for larger hole diameters during construction but there will be no additional payment for drilling or concrete masonry.

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11. *Can the department modify the Concrete Masonry Soldier Pile Footing specification so that only a #1 stone is utilized in the footing mix or amend the Standard Specification 501, called out in the project special provisions, Article 144, (B), "Materials", by striking out / eliminating Standard Specifications 501.3.2.2(3) and 501.2.5.4.4, requiring the use of #2 stone in the mix? The requirement to use a #2 stone in the footing mix design has created numerous problems / issues on the current Zoo I.C. – UPRR & STH 100 project, especially when pouring via tremie method.*

    The Concrete Masonry Soldier Pile Footing special provision will not be modified. The Department's Engineer will allow standard specification 501.2.5.4.4 (4)1, to be invoked for the soldier pile concrete. This provision gives the engineer leeway to approve entirely No. 1 stone coarse aggregate for grade A and grade A-FA concrete, which are the soldier pile concrete grade requirements.

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12. *For structure R-40-620, the structure sheet 5 of 9 (Plan Sheet 3260) calls out the soldier pile as a HP14x73 whereas the table on Plan Sheet calls out the soldier piles to be W14x73. Is the W14x73 a typo?*

    The soldier piles required are HP14 x 73. The W14 x 73 shown in the table is a typo.

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13. *The bid quantity for the above referenced item (line 5325) is 180,144 SF. If you go to the plans and add all the listed quantities for the MSE wall you come up with a total of 199,433 SF. I know this is a **P** item and it's no big deal, but I thought you should know that there's a discrepancy between the listed quantity and bid item quantity.*

    The plans (Page 2990) correctly show that R-40-536 includes 19,289 SF of MSE wall (item SPV.0165.4710). The schedule of items contained a mistake that counted the 19,289 SF as

temporary wire faced MSE wall (item SPV.0165.4740). This issue will be corrected as part of Addendum #2.

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14. *The special provisions call for a "minimum" thickness for timber lagging to be 3" yet the plans state that the "Material Values Based on Douglas Fir-Larch, No. 1 Greater/equal than 2". Can timber lagging be furnished with a nominal thickness of 3"?*

    No, three inch minimum thickness is required.

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15. *Detail above is shown on plans for R-40-504,511,524,525,536,551,552, & 557. This detail indicates that any backfilling of the "wedge" excavation behind the MSE wall backfill is embankment and not a wall item. This implies that this embankment is included in the earthwork data tables for the applicable alignment for each wall. Is this correct?*

    If the "wedge" backfill for the MSE walls is accounted for in the earthwork data tables (for this project), then my excavation and export for the MSE walls increases. This is not normal for WDOT projects.

    Normally, for a MSE wall, I would have X amount of excavation and export and Y amount of excavation and stockpile, then the replacement of Y amount in order to get back to existing ground elevation since excavation is incidental to MSE walls.

    Could you please clarify this issue.

    The embankment for the "wedge" area is included in the earthwork data tables. The fill diagrams that are included in the retaining wall plans (referenced in your question) should be used as the basis for your bid.

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16. *For Timber Lagging, is a Mixed Dense Hardwood Timber Lagging acceptable in lieu of Doug Fir / SYP?*

    3" thick Mixed Dense Hardwood timber lagging is acceptable as long as it meets or exceeds the material properties listed under the Design Data table in the plan sheets.

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17. *Special Provision 78 B.1 Concrete Mix Physical Requirements states "Fine and course aggregate shall conform to the requirements of standard specification 501.2.5 except use only course aggregate size No. 1".*

    Standard Specification 501.2.5.4.4 Size Requirements dictate ¾" minus aggregates. This mix is coarser than previous mixes used for the Zoo IC test program, Mitchell IC, Greenfield Avenue and Swan Blvd. Will the state permit the use of a pea gravel drilled shaft mix used on these previously listed projects?

The SPV will be revised in Addendum #3 to require the same drilled shaft course aggregate gradation as used on prior projects referenced in the question.

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18. *Please Reference the specification for High friction on Concrete C.2.2 Surface Preparation. In review of the requirements for surface preparation prior to the installation of the high friction surface treatment on concrete it does not mention shotblasting as being a requirement. It does mention that shotblasting can be used as one of the manners for removing grease, oil, paint, and other foreign contaminates but it does not state that the entire surface is to be prepared by shotblasting (generally to a finish of a CSP 5-7). As this process is identical to that of a polymer overlay with the exception being that a single layer of epoxy resin and aggregate are placed, the surface preparation should be the same for a bridge deck polymer overlay as it is for high friction on concrete. Shotblasting should be mandatory on a concrete substrate to insure that the pores of the concrete and clean and opened up to allow for proper saturation and bonding. For further reference, AASHTO has a stand practice specification published on their website for High friction Surface Treatment. Within that specification it goes into further detail as to why the entire area should be shotblasted.*

    Please forgive me if I am not correctly understanding the intension of the surface preparation section, but generally it is pretty clear that the entire area must be prepared by shotblasting and those areas that are not accessible maybe be prepared by hand grinding or sandblasting (areas are by curbs or barrier walls). We just want to make sure that everyone is clear when bidding that shotblasting is required as it is an integral part of ensuring proper bonding on concrete surfaces and that everyone's bids reflect that. feel free to let me know if I am mistaken or if you would like more information to support shotblasting on concrete.

    Please bid the items in question based on the information given in the plans and specifications.

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19. *Special Provision 257 C.3.1.2 states "Provide an electrical resistance load cell and readout for use when performing a creep test". All tests (performance and proof) require creep tests. Does this specification intend to require load cells on all tests or just performance tests?*

    The load cell is required for all performance testing.

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20. *Are the quantities listed in the Schedule of Items for the MSE and TWFMSE walls correct..? They are not the same as the total from each individual schedule for the walls*.

    The plans (Page 2990) correctly show that R-40-536 includes 19,289 SF of MSE wall (item SPV.0165.4710). The schedule of items contained a mistake that counted the 19,289 SF as temporary wire faced MSE wall (item SPV.0165.4740). This issue will be corrected as part of Addendum #2.

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21. *Water main: The City of MKE typically has restrictions on performing water main work during winter months. Their typical restriction (per City of MKE Standard Plan Notes for Water Main Construction, Note 3) is that no water main construction can be done between December 15th and March 15th. Will this restriction be waived for this project? Are their work restrictions for the water main under the jurisdiction of the City of Wawautosa?*

    Water main installation can be completed between December 15th and March 15th, however pressure testing and wet connections cannot be completed in that time frame due to inclement weather/ temperature considerations. If mild weather/temperature conditions exist within that time frame an exception could be granted but that would require approval by Milwaukee Water Works engineering and distribution sections.

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22. *Must water main be backfilled entirely with granular backfill when outside the limits of the roadway foundation? Can excavated material be used as backfill when outside of the roadway foundation?*

    Water main must be backfilled per the requirements of the Standard Plan Notes for Water Main Construction. Any exceptions to use excavated backfill material will be reviewed on a case by case basis and require approval by Milwaukee Water Works.

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23. *Storm Sewer: The detail on 626 titled "Stone Chips Detail – Trench" indicates a 6" layer of compacted granular back fill at the bottom of the excavation. Can the 6" layer of compacted granular backfill at the bottom of the excavation be replaced with stone chips? Also, can stone chips be used for backfill up to the top of the pipe?*

    Stone chips can be used in lieu of compacted granular backfill as pipe bedding material. Stone chips can also be used as backfill up to the top of the pipe only.

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24. *Sanitary Sewer: Must sanitary sewer be backfilled entirely with granular backfill when outside the limits of the roadway foundation? Can excavated material be used as backfill when outside of the roadway foundation?*

    There are few if any significant areas throughout the project where this would apply. Granular backfill should be assumed for all locations. Areas outside of the roadway foundation can be re-examined during construction.

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25. *The detail for S56 and S56A Special is almost a mirror image of the S56 Mold used in Brown County for the USH 41 Reconstruct in Green Bay. The only difference is 2-inches less on top and bottom for this project. Is there any possibility in using this mold in lieu of the proposed S56 mold on pg. 197.*

    Please bid the barrier in question based on the dimensions given in the plans.

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26. *Can the department furnish soil borings at each location where temporary shoring is required per the plans? In review of the shoring, there looks like retained heights up to 26' and it is difficult to figure what type of shoring and any preliminary designs associated with, without soils information. In review of the special provisions (Article 34 – Geotechnical Investigation Information), it looks like all the reports listed are for specific structures.*

    Soil borings have not been specifically taken in temporary shoring locations and will not be provided. Geotechnical reports can be used to find the closest boring information to the temporary shoring location. Each location will need to be designed per the standard specifications.

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27. *Looking at all the large diameter manhole and inlets structures, would it be acceptable to use a reduction slab to utilize 48" diameter riser sections to reach the proper elevation. It would be a very cost effective option compared to using large diameter manhole sections to reach the elevation.*

    Please bid the items in question based on the information given in the plans and specifications.

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28. *Retaining walls R-40-524 and R-40-525 are along the Schlinger alignment. Will cross-sections be provided for Schlinger Ave, R/L SCH?*

    The earthwork for these walls is included in the NS and SW roadways. No further cross sections will be provided prior to the bid date. Additional information can be provided during construction if necessary.

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29. *Retaining wall R-40-556 appears to have partial cross-sections on the Ramp NE alignment. The match lines would suggest that the remaining length of wall would have cross-sections found on the NS alignment. Will these cross-sections be provided?*

    Wall R-40-556 is shown on the mainline USH 45 SB cross sections on pages 3629-3638 and on the Ramp NE cross sections on pages 3917-3921.

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30. *We're working on putting a number together for the Zoo Interchange Phase 1 job (project 1060-33-80), and to help us generate our quantities we're using the XML files for the job that were posted to the DOT's website. The existing surface files work great for us, but the proposed surface file (COMB FIN_070714) is missing close to half of the proposed tin. Would you be able to take a look at this, and if possible post an XML file that has the complete proposed surface tin? It's a huge help in figuring quantities for the job.*

    The final survey for all permanent roadways is currently on the website. Surfaces for the areas listed as "Other" in the plans have now been posted to the HCCI website:

http://roadwaystandards.dot.wi.gov/hcci/projects/se.htm

The surfaces for all phase 1 temporary roads will be available after notice to proceed and all other staged construction and temporary roads as necessary.

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31. *There are quantities listed in the MQ's [plan sheets 1607, 1608] for 42-Inch Class IV Storm Sewer RCP, but there is no bid item for it.*

    The bid item will be added as part of Addendum #3.

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32. *Please clarify when Structure B-40-862 needs to be completed. This Structure is East of the Section 1/2 demarcation line, but plan page 1298 shows this structure as Stage 4A Section 1 Work.*

    Per the revised Prosecution and Progress article included in Addendum #1, B-40-862 is considered a part of Section 1 work and is required to be completed per Interim Completion of Work 12/21/2015.

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33. *Addendum #2 added the quantity of 2,497 SF Temporary Shoring 320NS+00 to 322NS+00. This is for the removal of the contaminated soil.*

    I see that lines 846 & 847 were added for the temp shoring for the FCV alignment. But I do not see a line item added for SPV.5111300.0020. I believe it should be line item 848 following your numbering system.

    The item was added on line 7005.

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34. *Per the latest revision in addendum #2, section 86 – Storm Sewer, we believe there are contradictory statements that leave the question of trench backfilling storm sewers unanswered. Referencing the paragraph that replaces standard spec section 607.3.5(1). The paragraph starts by saying "conform to detail as shown on the plans". The detail on the plans (sheet 626) clearly states if the pipe is outside the traveled way; native backfill material may be used above the stone chips. The second sentence in the revised specs states "Backfill all trenches and excavations of all new storm sewer and storm sewer structures not occupied by Backfill Controlled Low Strength or stone chips immediately after completing the sewer work with backfill material conforming to section 209". This is saying ALL trenches, regardless of location, need to be backfilled per standard spec section 209, which is the spec for granular material. Please clarify if granular backfill is required for new sewers or removing old storm sewers when they are located outside of proposed or future pavements.*

    The special provision should read that granular backfill conforming to section 209 is required for new storm sewers or storm sewer structures within the proposed or future traveled way inclusive of shoulders and auxiliary lanes above the stone chips. If the storm sewer or storm

sewer structure is outside the traveled way inclusive of shoulders and auxiliary lanes, native backfill may be used above stone chips.

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35. *When the existing box culvert east of 84th St. is removed on a skew, a triangular portion of the upper deck will be cantilevered over the box culvert void. This cantilevered section must support the existing soil cover and traffic. Has the remaining overhanging portion been checked for overall structural stability? Is it assumed the overhanging portion can support the roadway above? If not, does the overhanging portion have to be shored? If shoring is needed, how does it get paid?*

    The culvert removal was laid out to provide adequate area between the traffic and the work zone to allow for culvert removal lines to be squared off to each culvert cell (i.e. no skewed culvert removal lines). The contractor is required in Article 54 (also see addendum No. 2)to provide culvert removal plans that outline the staged removal of the culvert.

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36. *The existing grade over the 60 inch storm sewer run that is proposed to be tunneled will eventually be cut down in a subsequent project. (MH's Z2817 and Z2820, page 667). Can the void above the top of the manholes be backfilled with excess common excavation or utility spoils?*

    The void above the top of the manholes can be backfilled with excess common excavation or utility spoils.

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37. *Please confirm the Corrosion Protection Class for the tiebacks. The drawings imply Class 1 protection. The special provision is unclear. Which controls?*

    Class 1 corrosion protection is required. The plans and tieback anchor special taken together provide the Class 1 corrosion protection.

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38. *Please confirm the bearing plates, trumpets and anchorage covers for the tiebacks do not require galvanizing.*

    The bearing plates, trumpets and anchorage covers do not require galvanizing.

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39. *Please clarify the intent of Special Provision 257 B.2(8) "Fabricate ground anchor tendons from a single bar. Additionally, the ground anchors tendons must coform to the following: Steel bars conforming to AASHTO M275, or ASTM A722, Seven-wire, low relaxation strands conforming to M203." Will strand anchors be allowed even though multiple strands may be required?*

    Multiple seven wire low relaxation strands are allowed at an anchor location. The steel bar anchors must be one bar (diameter sized to achieve capacity) to achieve the required anchor capacity.

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40. *I am seeing some discrepancies on the relief called out for walls 511 and 552. On Wall 511 the legend calls for ¾" and 1.5" relief while the liner section H-H calls for 1" and 2" relief. Wall 552 uses the same legend, but the section matches. Can you please clarify what is required. This will be a significant cost impact.*

    The wall 511 legend calling for ¾" and 1.5" relief is correct. The reliefs shown on Section H-H are incorrect and will be revised in plan revision 1 post-Let. Wall 552 reliefs are consistent and correct.